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ABSTRACT

Comparative staffing units quantify the direct instructional, related instructional, and related professional activities of university instructional faculty members. This method measures estimated faculty input, rather than output, and offers a number of advantages over the more traditional workload measures of credit hours, student credit hours, student credit hours per full-time equivalent, and student/faculty ratios. Specific comparative staffing unit (CSU) values are assigned to each of the general activities in which the faculty member engages. Adjustments in CSU values recognize types of course, level of course, number of students per course, and whether courses are initial or repeat sections. Activities are measured on the basis of credit hours, contract hours, or number of students, as appropriate. Undergraduate advisees, committee assignments, and related professional activities also are specifically recognized and qualified as necessary and significant portions of the instructional workload. The comparative staffing unit method of analyzing faculty workload enables identification and quantification of significant activities in which university instructional faculty members are involved. (Author/KE)

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Comparative Staffing Units As A Measure Of University Instructional Workload

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fort collins, colorado

official document

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COMPARATIVE STAFFING UNITS AS A MEASURE OF UNIVERSITY INSTRUCTIONAL WORKLOAD

Kenneth E. Wing

ACE Fellow in Academic Administration

in cooperation with the
Office of University Planning and Budgets
and the
Office of Academic Affairs

Colorado State University
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April, 1975

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INTRODUCTION

On the surface, today's university appears to be a more tranquil institution than it was during the latter half of the previous decade. Students have directed their energies toward the more traditional activities of the university environment and away from social protest and disruption. This apparent tranquility in the student sector has not extended equally to the administrative sector. Increased economic pressures, increased public scrutiny of university finances, and the lower priority granted to higher education because of the competition of today's social welfare and environmental programs have resulted in a large increase in the problems faced by university administrators. The student turmoil of yesterday, related to social and political concerns, has changed to the administrative turmoil of today, caused mainly by economic concerns.

In addition to the increasing public and legislative scrutiny under which today's university administration must operate, students are exerting pressure for improved quality in the education they are "buying" as the cost of that education rises rapidly. Faculty, concerned with their financial situation and workloads, are requesting higher salaries and more reasonable assignments and are investigating the feasibility of collective bargaining as a means to achieve their objectives. The combined effects of the external demands for improved financial efficiency and the internal demands for improved educational quality, coupled with strong inflationary pressures, have focused a considerable amount of pressure on the university administrators as they attempt to operate the university in a manner acceptable to its sources of funding, its employees, its students, and the general public.

Since the cost of providing the instructional faculty is usually the

largest single item in the university's budget, much of this increased concern is focused on the teaching faculty. Major concerns, in addition to salary levels, are the number of instructional faculty members needed to provide a quality educational experience for the students, reasonable workloads for individual faculty members, and a tolerable and credible financial burden for the funding agencies and general public. Today's faculty members frequently are seen by the public as underworked and overpaid, by themselves as overworked and underpaid, and by the students as increasingly unavailable for advice and assistance due to the multiple demands currently placed on the faculty's time.

Given these concerns, the development and utilization of an improved method for determining what constitutes a reasonable instructional workload in the university environment would be highly beneficial. It would provide the basis for justifying sufficient instructional faculty positions to provide for reasonable individual faculty workloads and a high-quality education for the students and it would provide meaningful response to the public interest.

Faculty Activity Analysis

Faculty productivity and faculty workloads can be analyzed either from the viewpoint of total faculty activities or from the viewpoint of specific duties. The overall approach is generally referred to as faculty activity analysis. Specific analyses, within the overall analysis, can be directed toward the teaching, research, extension, or public service activities of the faculty.

Faculty activity analysis attempts to describe every professional activity in which a faculty member engages and the proportion of time spent on each activity. These activities, in a university environment, include

teaching, supervising graduate students, research, scholarly activity, professional development, conducting extension programs, public service, advising undergraduate students, faculty governance, committee work, and a multitude of other activities. In addition to measuring range of activities and proportional time utilization, faculty activity analysis attempts to determine the output resulting from this activity. A very detailed description of faculty activity analysis is included in recent publications from the National Center for Higher Education Management Systems (NCHEMS) at the Western Interstate Commission for Higher Education (WICHE) (5,9,10). This work on faculty activity analysis at NCHEMS includes a report on overview and major issues, a manual of procedures, a survey instrument to collect data, a data analysis and interpretation manual, and a final report that will analyze the relationship between faculty inputs and educational outputs.

Further work in faculty activity analysis is being proposed by the National Association of State Universities and Land-Grant Colleges and the Council of Colleges of Arts and Sciences (1). This study would evaluate currently used methods of analyzing faculty activities and attempt to develop and implement an improved method. Additional work in faculty activity analysis has been done at the University of Washington (3). University of Massachusetts (4), and the University of Michigan (11). The report by Miller (6) gives details on faculty analysis and budgetary procedures in several states.

Due to the scope and complexity of faculty activity analysis, such an investigation is beyond the objectives of this project. The intent of this project is to focus specifically on the direct instructional, related instructional, and related professional activities of the university faculty member on a full-time instructional appointment.

Measures of Faculty Instructional Productivity

Historically, faculty instructional activities have been measured and the numbers of instructional faculty positions needed have been determined primarily by three methods. The first method enumerates the number of credit hours of course work taught per quarter, semester, or academic year by each individual faculty member. This method traditionally assumes a basic relationship of one hour in the classroom and two hours outside the classroom for each credit hour offered, a certain number of hours per week for other activities such as advising students or service to the university, and an average work week for instructional faculty ranging from 45 to 60 hours (2,8,9). Once the standard credit hour load of 9, 12, or 15 is established, the number of instructional faculty needed is determined by dividing the number of credit hours to be offered by the standard credit hour load. The major drawbacks of this method are that it does not account for the number of students taking the courses, the instructional mode employed (lecture, laboratory, practicum, seminar, independent study, etc.) or the level at which the courses are given. Two courses offering the same number of credit hours may require widely different amounts of faculty input to teach the course.

A second method for determining the number of instructional faculty positions needed assumes that a faculty member can effectively provide instruction to a certain number of students. This student-faculty ratio is usually expressed in terms of full-time equivalent (FTE) students and full-time equivalent (FTE) faculty rather than in headcount numbers. This ratio might be set at 20 to 1 as an average figure, with some courses staffed at 30 or more to 1 and some at 10 to 1 or 5 to 1 depending on the type of instructional activity. While a variable ratio can take into

account the numbers, types, and levels of courses offered, the ratio fails to recognize that a certain minimum complement of faculty is needed to offer a complete instructional program. This ratio method is widely used but can easily be misunderstood and inappropriately applied.

A third method measures faculty productivity by multiplying the number of students in each course by the number of credit hours for that course to obtain the total number of student credit hours (SCH) produced. Total SCH production for an academic department, college, or university is obtained by adding the sums of SCH for individual courses. The number of SCH expected to be generated by each faculty member can be estimated based on assumptions relative to the number of students in each course and the number of courses taught per faculty member. It is a combination of the credit hour load method and the student-faculty ratio method. The number of SCH expected from each faculty member is divided into the total SCH expected to be produced in a given semester or year to estimate the number of instructional faculty needed. It is readily apparent that this method is more useful for estimating total output of the university faculty than it is for measuring individual faculty input.

All three traditional methods have been widely utilized. However, each is based on averages--courses per semester, students per faculty member, students per class--and none is especially useful for estimating individual faculty instructional workloads. The traditional instructional productivity measure of credit hours taught per quarter or semester is fairly well understood by the teaching faculty. However, the furtner one gets from the classroom, the less meaningful that measure becomes. Faculty members know that the number of credit hours taught per quarter or per semester does not accurately represent the effort expended to teach those credit hours.

Different types and levels of courses and different educational delivery systems require differing amounts of faculty input. Student-faculty ratios need to be used with caution due to the great variability of instructional methods, course levels, and program purposes. Measuring faculty workload in terms of SCH/FTE also can generate misinformation. SCH/FTE is an output measure, not an input measure, and it does not accurately reflect the real instructional workload of an individual faculty member. None of these three methods attempts to deal specifically with the actual work necessary to teach each individual course or the amount of workload generated by related instructional or related professional activities.

Increasing public scrutiny, especially in state-supported institutions, has magnified the misinformation conveyed by either the credit hour teaching load measure, the student-faculty ratio method, or the SCH/FTE measure. Elected or appointed officials charged with allocating and administering funds to educational institutions can be easily mislead by any of these methods of measuring faculty productivity. The 9 or 12 or 15 credit hour load assigned to a full-time teaching faculty member can easily, and improperly, be compared with the generally accepted 40-hour week worked by many employees. It is difficult for those outside the academic community to relate a 12 credit hour teaching load to a 40-hour work week.

It is generally understood that an employee working 40 hours per week is a full-time employee; if working 20 hours per week, the individual is considered a half-time employee. Likewise, if working more than 40 hours per week, the individual is "overloaded" and eligible for overtime pay. This analysis does not apply to professional employees, whether lawyers, doctors, or university professors. Their working hours are much more variable and output is measured more in terms of the quality and quantity of jobs

completed than in hours worked. Unlike independent professionals, university professors generally are paid a fixed salary for their professional services and less immediate incentive exists for working extra hours in the academic community. However, many extra hours are worked by faculty based on the potential (long-run) of attaining tenure, promotion, extra salary consideration, and peer recognition. These factors generally account for the average working hours of faculty members being far greater than the usual 40 hours per week.

Further public confusion can be introduced by measuring faculty productivity in terms of SCH/FTE or student-faculty ratios. In addition to the possible misunderstanding of the measures used, the numbers involved make it difficult to conceptualize either the real output achieved or the real effort expended. Clearly, a method should be utilized that more accurately measures each instructional faculty member's real workload and expresses it in terms more easily understood.

One method--a comparative course-by-course system--appears to have great promise from the viewpoint of communications, flexibility, ease of use, and low cost of administration. Variations of such a system have been used for many years at educational institutions in California and at educational institutions in other states (6), and more recently at the University of Northern Colorado (12), to describe individual teaching loads to determine the number of teaching faculty positions needed. By assigning a comparative workload factor to each instructional activity, individual workloads can be analyzed and the total number of instructional faculty needed can be determined. Faculty teaching assignments can be made on a more equitable basis. The comparative workload of each activity recognizes the number of credit hours, the method of instruction, the level of the

course, and the number of students in the course, in addition to recognizing the workload of related instructional activities.

All three traditional methods for measuring faculty instructional productivity have been utilized at Colorado State University. Some individual colleges have established guidelines relative to the number of credit hours to be taught by individual instructional faculty members. The Colorado Commission on Higher Education, a state level planning and coordinating agency, also has developed guidelines for student-faculty ratios and SCH/FTE (7). However, no comparative course-by-course estimation of instructional workload has been utilized at Colorado State University to measure individual workloads or to estimate the number of instructional faculty positions required.

Purpose of Project

The specific purpose of this project is to devise an improved method for determining the workload generated by each direct instructional, related instructional, and related professional activity carried out at Colorado State University and the estimated workload expected of each instructional faculty member. The need for this was recognized in the Master Plan for Colorado State University, as follows:

> The data presented in this document is just a first step in exploring the nature of instructional programs in depth. Certain elements used in the construction of this plan are weak due to the lack of detail in information currently maintained. Faculty productivity is one of these elements. To strengthen the data, the University intends to undertake a staffing formula for all courses taught, based on an analysis of departmental activities. This formula will assign load factors to courses as percent of an FTE faculty member. Faculty assignments by level can be derived as well as production levels.[1]

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[1] Pattern for the '70s, Master Plan for Colorado State University: Document VI, Personnel and Dollar Resource Requirements, p. VI-9.

These load factors will specifically recognize the input necessary to provide each activity and will be more accurate and meaningful than credit hour loads, student-faculty ratios, or SCH/FTE numbers. Utilization of this procedure could allow more equitable assignment of individual teaching loads, more equitable allocation of faculty positions to colleges and departments, more justification for requesting additional teaching faculty positions, and, possibly, a better means of communicating to the public the vast range of activities in which university instructional faculty are involved.

Before attempting to quantify the comparative workload of each specific activity engaged in by university instructional faculty members, it is appropriate to analyze the range of activities in which such individuals are expected to be involved. Stated simply, the following section attempts to answer the frequently-asked question, "What do university faculty members do?"

ACTIVITIES OF UNIVERSITY INSTRUCTIONAL FACULTY MEMBERS

Faculty members in a university environment who are employed as full-time teachers are expected to participate in many university activities besides teaching. Additionally, the teaching portion of their activities includes far more than just lecturing to classes of students. This section attempts to enumerate the activities in which university instructional faculty members are expected to participate and to quantify, in relative terms, the amount of time per week expended or expected in each area of activity.

Figure 1 identifies the major activities of a typical full-time instructional faculty member at a comprehensive university. While similar activities are usually expected of faculty members at community colleges and state colleges, the presence of graduate degree programs and formalized research programs at the university level require that instructional faculty members engage in all the activities described to a significant degree. Faculty retention and promotion are based on achievement in each of the three major areas; direct instructional activities, related instructional activities, and related professional activities.

A recent study of faculty activities at Colorado State University provides specific information relative to the average professional working hours per week.

> A questionnaire to solicit opinions about various aspects of Colorado State University was developed by the Four Task Groups and the Executive Committee, with comments and suggestions from several other sources. This questionnaire was distributed to all faculty members and administrators in May, 1972, and approximately 700 completed questionnaires were returned. Those replying included 188 professors, 180 associate professors, 192 assistant professors, 53 department heads, 30 deans or directors, and 30 administrators.[1]

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[1] "Report on Academic and Research Organization of Colorado State University," Colorado State University, August 1, 1973, p 21.

In response to the request, "Considering the academic year just ending, make an approximation of the average number of hours per week which you devoted to University activities of all kinds (teaching, research, service, etc.)," CSU faculty members indicated they spent an average of 56.72 hours per week in University activities during the 1971-72 academic year.[2]

It is assumed there could be a moderate amount of over-estimation in the 56.72 hours per week reported, due to erroneous recall of activities, differential recall of the more demanding weeks over the year studied, or normal human fallibility. Therefore, for purposes of this project, the assumption is made that university instructional faculty members normally work approximately 50 hours per week. It is recognized that many faculty members do work many hours in excess of this number.

Of this 50 hours per week, approximately 80% (40 hours) is expected to be spent in instructional activities and 20% (10 hours) is expected to be spent in related professional activities. This general distribution of time applies only to a person on a 100% teaching appointment. Individuals on a split appointment (teaching - research or teaching - extension) would have a different proportion of time in each area but the total working hours per week would remain the same.

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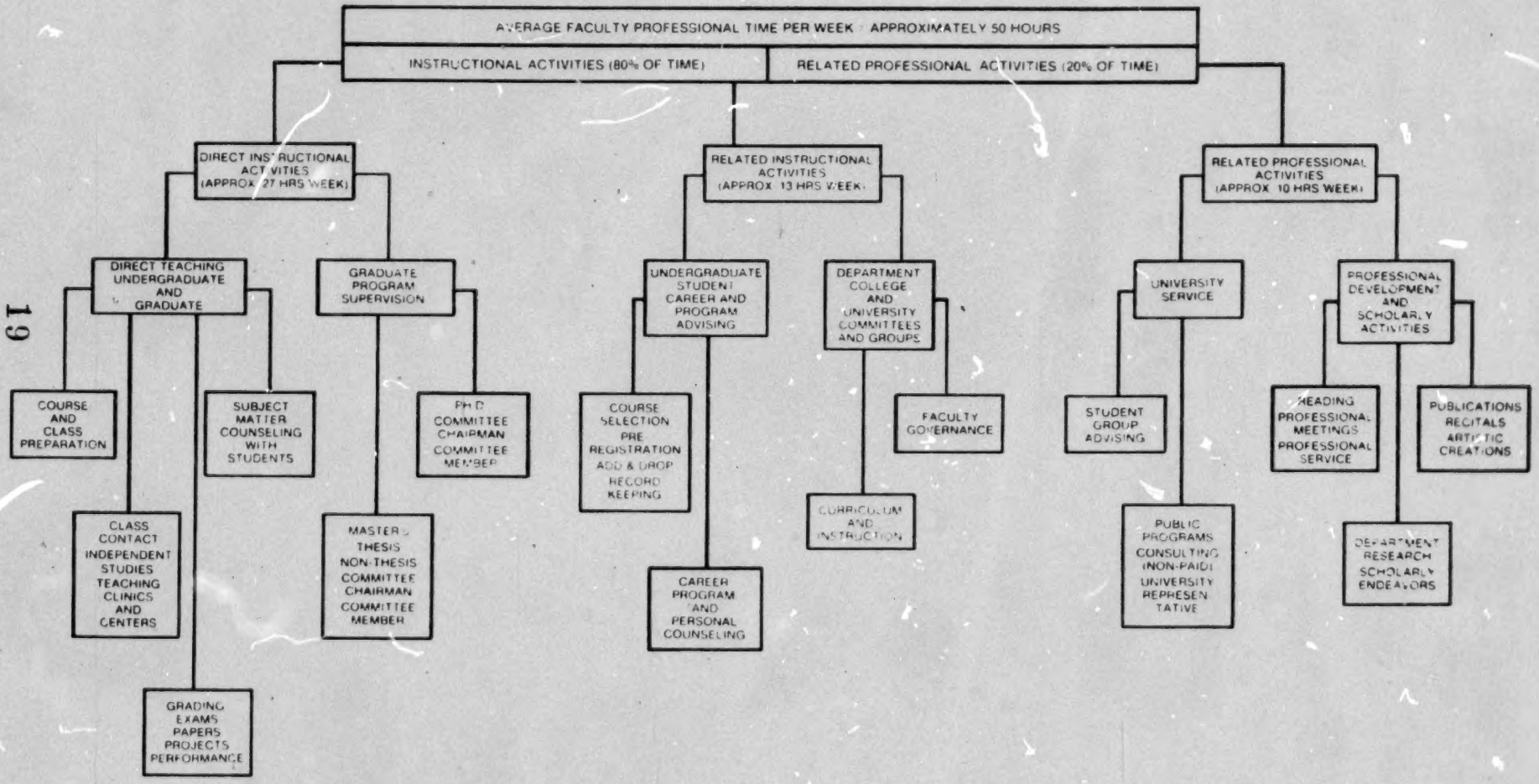
[2] Ibid., p. 32.

FIGURE 1. PROFESSIONAL ACTIVITIES OF TYPICAL FULL-TIME UNIVERSITY INSTRUCTIONAL FACULTY MEMBERS


AVERAGE FACULTY PROFESSIONAL TIME PER WEEK - APPROXIMATELY 50 HOURS
INSTRUCTIONAL ACTIVITIES (80% OF TIME)
RELATED PROFESSIONAL ACTIVITIES (20% OF TIME)
DIRECT INSTRUCTIONAL ACTIVITIES (APPROX 27 HRS WEEK)
RELATED INSTRUCTIONAL ACTIVITIES (APPROX 13 HRS WEEK)
RELATED PROFESSIONAL ACTIVITIES (APPROX 10 HRS WEEK)
DIRECT TEACHING UNDERGRADUATE AND GRADUATE
GRADUATE PROGRAM SUPERVISION
UNDERGRADUATE STUDENT CAREER AND PROGRAM ADVISING
DEPARTMENT COLLEGE AND UNIVERSITY COMMITTEES AND GROUPS
UNIVERSITY SERVICE
PROFESSIONAL DEVELOPMENT AND SCHOLARLY ACTIVITIES
COURSE AND CLASS PREPARATION
CLASS CONTACT INDEPENDENT STUDIES TEACHING CLINICS AND CENTERS
GRADING EXAMS PAPERS PROJECTS PERFORMANCE
SUBJECT MATTER COUNSELING WITH STUDENTS
MASTER'S THESIS NON-THESIS COMMITTEE CHAIRMAN COMMITTEE MEMBER
PH D COMMITTEE CHAIRMAN COMMITTEE MEMBER
COURSE SELECTION PRE REGISTRATION ADD & DROP RECORD KEEPING
CAREER PROGRAM AND PERSONAL COUNSELING
CURRICULUM AND INSTRUCTION
FACULTY GOVERNANCE
STUDENT GROUP ADVISING
PUBLIC PROGRAMS CONSULTING (NON-PAID) UNIVERSITY REPRESENTATIVE
READING PROFESSIONAL MEETINGS PROFESSIONAL SERVICE
DEPARTMENT RESEARCH SCHOLARLY ENDEAVORS
PUBLICATIONS RECITALS ARTISTIC CREATIONS

Direct Instructional Activities

The approximately 40 hours per week expected in the area of instructional activities is divided into 27 hours for direct instructional activities and 13 hours for related instructional activities. The 27 hours for direct instructional activities assumes a teaching load of nine adjusted credit hours per semester or quarter. These adjusted credit hours, quantified in a subsequent section, attempt to measure the actual input of faculty instructional effort to the educational process. All instructional activities, including supervision of graduate students, are equated to adjusted credit hours and 9 such hours are defined to be a full-time teaching load. Using the generally accepted concept that 2 hours are required outside of class for each hour spent in class, each adjusted credit hour then utilizes approximately 3 working hours per week. Nine adjusted credit hours thus account for 27 of the 50 working hours per week.

Related Instructional Activities

Related instructional activities account for approximately 13 hours per week and are divided into two categories. Advising undergraduate students is a vital segment of the university educational process and needs to be recognized as such in specific workload terms. This advising function includes both academic program, career, and personal counseling plus the details of course registration, changes in registration, and academic record keeping. The second area of related instructional activities includes the committee and faculty meetings necessary to plan for and provide meaningful educational programs in the university environment. Faculty involvement in these activities is vital. While these two categories of related instructional activities are somewhat removed from the classroom, the teaching function of the university requires that these activities take

place and that instructional faculty be involved in them on a continuing basis.

Related Professional Activities

The third general category, related professional activities, utilizes approximately 10 hours per week of faculty time. Major sub-categories are university service, professional development, and scholarly activities. Faculty involvement in these areas is essential for continued growth and achievement, both for the individual faculty member and for the university. While an individual's involvement in each of the categories will normally vary over time, continuing activity must occur in this area by any individual working in the university environment.

Variation in Activities

While these general assumptions of time allocation may hold for an "average" university instructional faculty member, great individual variations can and do occur. Individual faculty abilities, personalities, and preferences may lead to outstanding contributions and heavy time involvements in certain areas. Given the already lengthy working week expected of faculty members, adjustments for these variations in faculty contributions should be made within the 50-hour working week rather than by increasing the hours of work. Thus, a full-time teaching faculty member who has an unusually heavy advising or committee load may have a reduced teaching load to compensate for outstanding contributions in these other areas. Likewise, an outstanding teacher who has few advisees and prefers not to be involved with committees could logically be expected to carry more than the normal teaching load of 9 adjusted credit hours. This procedure recognizes individual differences while attempting to equate the

total workload expected of each university instructional faculty member.

This analysis of the wide variety of activities of university instructional faculty members should serve to emphasize two points: the already long working hours expected of faculty members and the great number of necessary activities beyond those that are classroom and class related. It was, indeed, an unfortunate historical choice to describe the workload of a university faculty member in terms of "9 hours" or "12 hours" or "15 hours." Even specific mention of 9 or 12 or 15 credit hours does little to clarify what such a load means in terms of working hours per week. Great confusion still exists in the public mind as to what university faculty members are expected to do and how many hours per week they are expected to work. Hopefully, this description and Figure 1 can serve to identify more clearly the vast range of activities expected of university instructional faculty members and to quantify the expected working hours per week.

COMPARATIVE STAFFING UNITS

Basic Definition

Given the range of activities and the approximate time distributions from Figure 1, detailed analysis and quantification of the specific activities of university instructional faculty can be developed. The disadvantages of currently available measures of teaching workload have already been described. In an attempt to solve these problems, a new measure of university instructional workload is proposed. This new measure is identified as Comparative Staffing Units (abbreviated CSUs).

Comparative staffing units measure the relative amount of professional input necessary to carry out a specific activity. A full-time university instructional faculty position is defined to consist of 1,000 comparative staffing units. The basic definition of 1,000 CSUs = 1.0 FTE was chosen to allow rapid comparison, in percentage terms, of overloads and underloads and to eliminate the need for decimal points in the basic CSU values assigned to individual activities. If the individual components of a faculty member's total workload added up to 1,200 CSUs, the estimated overload of 20 percent would be readily apparent.

Allocation of Comparative Staffing Units to Activities

Combining the basic definitions of 1,000 CSUs equal to 1.0 FTE instructional faculty position and 50 hours constituting a full-time working week, CSU values can be assigned to the three general and several specific activities described previously in Figure 1. The allocation of 1,000 CSUs for a full-time position over a 50-hour working week would be made as follows:

Activity	Approximate Hours/Week	Percentage of Weekly Hours	CSU Value
Direct Instructional Activity	27	54%	540
Related Instructional Activity	13	26%	260
Related Professional Activity	10	20%	200
Total	50	100%	1,000

Based on a theoretically "average" university instructional faculty member, approximately 27 hours (540 CSUs) would be expected to be expended in the area of direct instructional activity. Thus, each instructional activity would be assigned a specific CSU value on the basis of credit hours, contact hours, or numbers of students, as appropriate. In the 13 hours (260 CSUs) allocated to related instructional activities, the workload expected to be generated by each undergraduate advisee and each significant committee would be assigned a specific CSU value. For purposes of this study, the 10 hours (200 CSUs) assigned to related professional activities is assumed to be a constant value for each faculty member. Detailed analysis of this area is suggested for a subsequent study.

Basic assumptions for developing specific CSU values for each activity are stated in the following section. At this point, it is important to visualize the general relationship between the multiple activities of the individual university instructional faculty member and the concept of comparative staffing units. Two specific points need emphasis: (1) The general CSU values do not comprise standards for specific individuals or specific positions and (2), great flexibility exists within the system to recognize individual faculty abilities, interests, and personalities and the necessarily subjective decisions of department chairmen and college deans. Thus, the intent is not to set standards or to describe standard

positions. It is to create a mechanism whereby each activity engaged in by a faculty member can be "quantified" in relative input terms and specifically recognized as a significant and essential contribution to the mission of the university.

Value of Comparative Staffing Unit Method

Appropriate utilization of the concept of comparative staffing units can be useful in reducing or removing inequities among individual faculty teaching loads, giving specific recognition to the related instructional and professional activities, and providing a more specific basis for requesting additional instructional faculty positions. Utilization of a less-refined method of measuring workload can lead to an expectation that faculty members carry a full instructional load, or an overload, and engage to a significant extent in all the other instruction-related and professional activities with, in some cases, inadequate recognition of the importance of these related activities. This is not conducive to the creation and continuation of a desirable environment for the transmission, storage, and discovery of knowledge within the university.

Adequate recognition of the real instructional workload of university faculty members is essential to planning for and providing sufficient numbers of instructional faculty members. Additionally, measuring university workload in terms of comparative staffing units allows more accurate analysis for purposes of development of staffing patterns, program and course costs, and preparation and defense of budget requests.

COMPARATIVE STAFFING UNIT VALUES FOR SPECIFIC ACTIVITIES

Activities Included

The three general areas of professional activities included in this study are direct instructional activities, related instructional activities, and related professional activities. Direct instructional activities are those activities involved with the direct teaching of undergraduate and graduate students and the supervision of graduate student programs. Related instructional activities include undergraduate student advising and involvement with department, college, and university committees and groups. Related professional activities include university service, professional development, and scholarly activities.

Fourteen different activities are identified in the category of direct teaching and six different activities are identified in the category of graduate program supervision. These activities include recognition of the type of instructional activity and the level at which it is offered. The activities included are:

Direct Teaching Activities

1. Undergraduate lectures
2. Repeat section, undergraduate lecture
3. Graduate courses
4. Honors sections and colloquia
5. Repeat section, graduate or honors course
6. Recitations
7. Seminars
8. Activity classes and clinics
9. Laboratories
10. Independent studies and honors projects
11. Individual lessons
12. Student teaching
13. Internships
14. Senior honors thesis

Graduate Program Supervision Activities

1. Ph.D. Student - Chairman of Graduate Committee
2. Ph.D. Student - Member of Graduate Committee
3. Master's (Thesis) Student - Chairman of Graduate Committee
4. Master's (Thesis) Student - Member of Graduate Committee
5. Master's (Non-Thesis) Student - Chairman of Graduate Committee
6. Master's (Non-Thesis) Student - Member of Graduate Committee

While the fourteen direct teaching activities may not identify and include the specific name of every teaching activity offered, the general types of activities usually offered within the university are included. For certain specific graduate degrees, the faculty input may fall between that required for a Ph.D. student and for a Master's student. Adjustments and extrapolations for individual situations are very appropriate and fit well within the flexibility designed into the comparative staffing unit system. Decisions as to where a particular activity fits into the general concept are best made by those closest to the activity.

The category of related professional activities includes two sub-categories: undergraduate advising and department, college, and university committees and groups. The undergraduate advising function includes both the career, program, and personal counseling and the mechanical details of course selection and pre-registration, add and drop procedures, and maintenance of student records. The committees and governance groups include those concerned primarily with the coordination and improvement of the academic activities of the university.

The category of related professional activities includes student group advising, presentation of public programs, non-paid consulting, representing the university off-campus, professional reading, meetings, and service,

department research, scholarly endeavors, publications, recitals, and artistic creations. Specific quantification of workload in each of these areas is not attempted in this study. However, a lump sum of time (20%) is allocated to this general category to recognize its necessity and significance in the total workload of the university instructional faculty member.

The next step in developing specific comparative staffing unit values for these varied activities is to define basic units of measurement for all direct instructional activities, related instructional activities, and related professional activities. The direct teaching activities, graduate program supervision activities, undergraduate advising activities, committee activities and related professional activities are measured in terms either of a defined basic unit or in terms of the basic working week, as appropriate.

Definition of Basic Units of Measure

Direct Instructional Activities

For direct instructional activities, the basic unit of instructional workload is defined as one credit hour of lecture in a typical undergraduate course. All other direct instructional activities are assigned a workload factor based upon this defined unit. Activities "easier to teach" (require less faculty input) than the basic unit are assigned a lower workload factor. Those activities "more difficult to teach" (require more faculty input) are assigned a higher workload factor.

Direct instructional activities may be measured in terms of credit hours, contact hours, or number of students enrolled, as appropriate. Regardless of the way in which the activity is measured, the instructional workload factor for each activity is expressed in terms of adjusted credit hours. If a full-time instructional workload is defined as 9 adjusted

credit hours, the individual teaching activities are defined in terms of how many credit hours, contact hours, or supervised students would be equivalent to the work necessary (faculty input) to instruct 9 hours of basic undergraduate lecture. This adjusted credit hour factor represents the instructional responsibility of an individual faculty member on a comparative basis. Basic workload factors are assigned on the basis of the faculty member's being involved only in that specific activity. Having determined equivalent workload factors, the actual activities engaged in by an individual faculty member can be quantified.

This adjusted credit hour measure recognizes the different types and levels of courses offered and the graduate program supervision activities of the university instructional faculty. It is a measure of faculty input, rather than output, and attempts to quantify, on a comparative basis, each direct instructional activity of the individual faculty member.

Related Instructional Activities

For the related instructional activities of undergraduate advising and committee work, a slightly different approach is utilized. The workload factors are based on the professional working time available during the week for undertaking these specific activities. First, in determining advising workload factors, 10 hours of the previously-defined 50-hour working week are allocated to the related professional activities. Additionally, an individual who is assumed to do only undergraduate advising would still be expected to participate in committee and governance group meetings. Deducting 10 hours per week for those activities leaves 30 hours per week available for advising undergraduate students. Thus, workload factors for advising undergraduate students are based on 30 hours per week being available for that purpose. Such a full-time advisor would still have allocated

the 10 hours per week for committee and group meetings and the standard 10 hours per week for related professional activities.

In determining the workload factors for committee assignments, the assumption is made that the individual who devoted all his activities to this area would not teach courses and would not advise students. Such an individual would still be expected to devote 10 hours per week to the related professional activities. Thus, 40 hours per week would be available to such an individual for committee and group meetings.

It is recognized that assigning a professional instructional faculty member to do nothing but advise undergraduate students or to attend committee meetings is unrealistic and academically unsound. However, determination of the workload generated by a specific number of advisees or committees should be based on the total workload that could be handled if the individual engaged only in that specific activity. Likewise, if a faculty member was responsible only for undergraduate lectures, he could be expected to instruct 13.3 credit hours (50 working hours per week less 10 hours for related professional activities = 40 hours per week in teaching ÷ 3 = 13.3 credit hours). Since most instructional faculty members do advise undergraduates, do serve on committees, and do participate in related professional activities, the basic instructional workload is defined as 9 adjusted credit hours. As the related instructional and related professional activities encroach upon the 27 hours per week allocated to the basic 9 adjusted credit hour teaching load, the teaching load should be reviewed for possible reduction. Likewise, if involvement in these related areas is minimal, consideration can be given to an increased basic teaching load. The flexibility for individualized workload assignments inherent in this system is readily apparent.

Related Professional Activities

A basic allocation of 10 hours per week is made to the category of related professional activities. The assumption upon which this allocation is based is that approximately 20 percent of an instructional faculty member's time should be utilized in activities that maintain currency in the professional field, create new knowledge, enhance the reputation and prestige of the individual, and contribute to the University's service obligations. These activities are extremely difficult to quantify. However, subjective analysis will usually indicate whether or not an individual faculty member is devoting the expected effort to this important category of activities. If unusually heavy commitments are accepted in this area, the basic allowance of 10 hours per week should be increased to reflect this involvement, whether it be of a temporary or continuing nature. The basic allowance can also be decreased, with compensatory increases in the other activity areas, if an individual does not devote the basic allotment of time to this area.

Having developed these general descriptions and assumptions, the analysis proceeds to enumeration of specific assumptions and determination of adjusted credit hour values for the 14 direct teaching activities and the 6 graduate program supervision activities. Basic workload factors are also developed for undergraduate advising and committee assignments.

Assumptions Used to Determine Adjusted Credit Hour Values for Individual Activities

With the basic units of measure previously defined for direct instructional, related instructional, and related professional activities, specific assumptions regarding workload factors and relationships can now be stated. The concept of adjusted credit hours is used for direct and

and related instructional activities. Allocation to the related professional activities is made as a basic time allowance for each full-time equivalent instructional faculty position.

Direct Teaching Activities

Specific assumptions and adjusted credit hour values for each of the 14 direct teaching activities are as follows:

1. The standard of comparison is one credit hour of undergraduate instruction given by the traditional lecture method. Nine such credit hours constitute one FTE instructional faculty position.
   (1 Credit Hour of Undergraduate Lecture = 1.00 Adjusted Credit Hour)

2. An instructor who is responsible for repeat sections of the same undergraduate course has a lighter instructional load than one who teaches the same number of different undergraduate courses. Thus, the workload factors for additional sections of the same undergraduate course are less than for additional separate undergraduate courses. Twelve credit hours of repeat sections of undergraduate courses constitute one FTE instructional faculty position.
   (1 Credit Hour of Additional Section = 0.75 Adjusted Credit Hour)

3. Graduate courses require more faculty effort than regular undergraduate courses. Therefore, additional workload is assigned to graduate courses. Six credit hours of graduate courses constitute one FTE instructional faculty position.
   (1 Credit Hour of Graduate Course = 1.50 Adjusted Credit Hours)

4. Honors sections and honors colloquia require more faculty effort than

regular undergraduate courses. Therefore, additional workload is assigned to such courses. Six credit hours of honors courses constitute one FTE instructional faculty position.
(1 Credit Hour of Honors = 1.50 Adjusted Credit Hours)

5. An instructor who is responsible for repeat sections of the same graduate or honors course has a lighter instructional load than one who teaches the same number of different graduate or honors courses. Thus, the workload factors for additional sections of the same graduate or honors course are less than for additional separate graduate or honors courses. Eight credit hours of repeat sections of graduate or honors courses constitute one FTE instructional faculty position.
(1 Credit Hour of Repeat Section of Graduate or Honors Course = 1.125 Adjusted Credit Hours)

6. Recitations are less demanding of faculty time than regular lecture sessions. Thus, a lower instructional workload factor is assigned to recitations. Repeat recitation sections are given the same workload factor as initial recitation sections. Twelve credit hours of recitations constitute one FTE instructional faculty position.
(1 Credit Hour of Recitation = 0.75 Adjusted Credit Hour)

7. Seminars are less demanding of faculty time than regular lecture sessions. Thus, a lower instructional workload factor is assigned to seminars. Repeat seminar sections are given the same workload factor as initial seminar sections. Twelve credit hours of seminars constitute one FTE instructional faculty position. Graduate seminars are treated either as graduate courses or as seminars, as determined by the

department chairman.

(1 Credit Hour of Seminar = 0.75 Adjusted Credit Hour)

8. Activity classes and clinics are more directly related to contact hours than credit hours. It is likely that the entire 27 hours of direct instructional activities would be utilized for class contact time and would be equivalent to one FTE instructional faculty position.

   (1 Contact Hour of Activity Classes or Clinics = 0.33 Adjusted Credit Hour)

9. The instructional workload for laboratories is more dependent upon contact hours than on credit hours. Therefore, laboratory workload is measured on the basis of contact hours rather than credit hours and 18 contact hours of laboratories is considered to be equivalent to one FTE instructional faculty position.

   (1 Contact Hour of Laboratory = 0.50 Adjusted Credit Hour)

10. Independent studies and honors projects are conducted primarily on student time. Assuming each student will need only one-half hour of faculty time per week for consultation purposes, one FTE instructional faculty position could handle 54 students in the 27 hours of instructional time available per week.

    (1 Student in Independent Studies or Honors Projects = 0.167 Adjusted Credit Hour)

11. Individual lessons require one-half hour of direct faculty time per week per student, plus preparation and evaluation time. Approximately 36 such students would constitute one FTE instructional faculty position.

    (1 Student = 0.250 Adjusted Credit Hour)

12. Supervision of student teachers requires a highly variable amount of time per student. Assuming that 18 student teachers would constitute one FTE instructional faculty position, each individual would receive an average of 1.5 hours of direct instructional time per week.
(1 Student Teacher = 0.500 Adjusted Credit Hour)

13. Supervision of internships requires a highly variable amount of time per student. Assuming that 18 student interns would constitute one FTE instructional faculty position, each individual would receive an average of 1.5 hours of direct supervisory time per week.
(1 Student Intern = 0.500 Adjusted Credit Hour)

14. Supervision of a senior honors thesis is considered to require approximately the same instructional effort as supervision of a master's thesis. Assuming each such student needs 1.5 hours per week with his advisor, 18 such students would constitute one FTE instructional faculty position.
(1 Senior Honors Thesis = 0.500 Adjusted Credit Hour)

These assumptions are summarized in Table I. Each 9 adjusted credit hour workload is assumed to utilize 27 hours per week of professional time plus allowing 13 hours per week for related instructional activities and 10 hours per week for related professional activities.

TABLE I

EQUIVALENT WORKLOAD OF DIRECT TEACHING
ACTIVITIES EXPRESSED IN ADJUSTED CREDIT HOURS

	Activity	Basis for Measurement	Equivalent Full-Time Instructional Workload	X	Adjustment Factor	=	Adjusted Credit Hours
1.	Undergraduate Lectures	Credit Hours	9		1.000		9
2.	Repeat Section, Undergraduate Course	Credit Hours	12		0.750		9
3.	Graduate Courses	Credit Hours	6		1.500		9
4.	Honors Sections and Colloquia	Credit Hours	6		1.500		9
5.	Repeat Section, Graduate or Honors Course	Credit Hours	8		1.125		9
6.	Recitations	Credit Hours	12		0.750		9
7.	Seminars	Credit Hours	12		0.750		9
8.	Activity Classes, Clinics	Contact Hours	27		0.330		9
9.	Laboratories	Contact Hours	18		0.500		9
10.	Independent Studies, Honors Projects	Number of Students	54		0.167		9
11.	Individual Lessons	Number of Students	36		0.250		9
12.	Student Teaching	Number of Students	18		0.500		9
13.	Internships	Number of Students	18		0.500		9
14.	Senior Honors Thesis	Number of Students	18		0.500		9

Graduate Program Supervision

Specific assumptions and adjusted credit hour values for each of the six graduate program supervision activities are as follows:

1. Chairman of Ph.D. Committee: Each Ph.D. student needs 3 hours per week with his graduate committee chairman. Thus, 9 Ph.D. students equal one FTE instructional faculty position.
   [1 Ph.D. Graduate Committee Chairmanship = 1.0 Adjusted Credit Hour]

2. Member of Ph.D. Committee: Each Ph.D. student needs 0.6 hour per week with a member of his graduate committee. Thus, 45 such graduate students equal one FTE instructional faculty position.
   [1 Ph.D. Graduate Committee Membership = 0.200 Adjusted Credit Hour]

3. Chairman of Master's (Thesis) Committee: Each such graduate student needs 1.5 hours per week with his graduate committee chairman. Thus, 18 master's (thesis) students equal one FTE instructional faculty position.
   [1 Master's (thesis) Graduate Committee Chairmanship = 0.500 Adjusted Credit Hour]

4. Member of Master's (Thesis) Committee: Each such graduate student needs 0.6 hour per week with a member of his graduate committee. Thus, 45 such graduate students equal one FTE instructional faculty position.
   [1 Master's (thesis) Graduate Committee Membership = 0.200 Adjusted Credit Hour]

5. Chairman of Master's (Non-Thesis) Committee: Each such graduate student needs 0.9 hour per week with the chairman of his graduate committee. Thus, 30 such graduate students equal one FTE instructional faculty position.

   [1 Master's (Non-Thesis) Graduate Committee Chairmanship = 0.300 Adjusted Credit Hour]

6. Members of Master's (Non-Thesis) Committee: Each such graduate student needs 0.3 hour per week with a member of his graduate committee. Thus, 90 such graduate students equal one FTE instructional faculty position.

   [1 Master's (Non-Thesis) Graduate Committee Membership = 0.100 Adjusted Credit Hour]

Table 2 summarizes the equivalent workload in adjusted credit hours of the graduate program supervision activities. As with the direct teaching activities, the 9 adjusted credit hour load utilizes 27 working hours per week. The remainder of the 50-hour working week is assumed to be utilized in the same manner as described before.

TABLE 2

EQUIVALENT WORKLOAD OF GRADUATE PROGRAM
SUPERVISION ACTIVITIES EXPRESSED IN ADJUSTED CREDIT HOURS

Degree Candidacy of Student	Faculty Responsibility	Full-Time Instructional Workload (Number of Students)	X	Adjustment Factor	=	Adjusted Credit Hours
1. Ph.D.	Committee Chairman	9		1.000		9
2. Ph.D.	Committee Member	45		0.200		9
3. Master's (Thesis)	Committee Chairman	18		0.500		9
4. Master's (Thesis)	Committee Member	45		0.200		9
5. Master's (Non-Thesis)	Committee Chairman	30		0.300		9
6. Master's (Non-Thesis)	Committee Member	90		0.100		9

Undergraduate Advising

Advising undergraduate students is accomplished within the 13 hours per week allocated to related instructional activities. Based on the earlier assumption that approximately 10 hours per week is spent in department, college, and university committee and group meetings, 3 hours per week out of the 13 hours in this category would be available for advising undergraduate students. Adding this 3 hours to the 27 hours in the direct instructional category allows 30 hours per week for advising undergraduates, if that were all the instructional work the faculty member did. This is equivalent to 10 adjusted credit hours (30 ÷ 3 = 10). In a semester of 15 weeks, 450 hours would be available for advising. Assuming 1.5 hours per advisee per semester, 300 advisees would constitute one FTE instructional

faculty position. (300 advisees = 10 Adjusted Credit Hours: One Advisee = 0.033 Adjusted Credit Hour)

Applying this 300 advisees/FTE ratio to the 16,800 advisees currently attending Colorado State University would result in recognizing 56 FTE instructional faculty positions utilized for the undergraduate advising function. Based on the present 920 instructional FTE, 56 FTE for advising would constitute approximately 6 percent of the total instructional FTE. This appears to be a reasonable amount of professional time to devote to this essential instructional activity. Using the Fall 1974 count of advisees and the 300 advisee/FTE ratio, the allocation of the advising FTE at Colorado State University would be:

College	Number of Advisees	FTE for Advising
Agricultural Sciences	1,200	4.0
Business	1,800	6.0
Engineering	1,200	4.0
Forestry and Natural Resources	1,800	6.0
Home Economics	1,700	5.7
Humanities and Social Sciences*	5,300	17.6
Natural Sciences	2,300	7.7
Veterinary Medicine and Biomedical Sciences	1,500	5.0
Total	16,800	56.0

*Includes 5 departments recently separated into the new College of Professional Studies.

Table 3 summarizes the estimated equivalent workload of undergraduate advising and committees. Note the assumed time distribution within the 50-hour week differs from that in Tables 1 and 2. For undergraduate advising, 30 hours per week are assumed to be available for that specific activity and this is equivalent to 10 adjusted credit hours. For committees, 40 hours per week, or the equivalent of 13.3 adjusted credit hours, are available for that specific activity.

TABLE 3

EQUIVALENT WORKLOAD OF UNDERGRADUATE ADVISING
AND COMMITTEES EXPRESSED IN ADJUSTED CREDIT HOURS

Activity	Full-Time Workload	Adjustment Factor	Adjusted Credit Hours	Working Hours Per Week: Undergrad Advis.	Committees	Related Prof.	Total
Undergraduate Advisees	300 Advisees	0.033	10	30	10	10	50
Committees	20 Committees	0.670	13.3	0	40	10	50

Committee Assignments

Adding the 13 hours per week allocated to related instructional activities to the 27 hours per week allocated to direct instructional activities allows 40 hours per week for involvement in department, college, and university committee and faculty meetings, assuming an individual is engaged only in these activities. This is equivalent to 13.3 adjusted credit hours (40 ÷ 3 = 13.3). Assuming 2 hours per week per committee, 20 committees would constitute one FTE instructional faculty position for someone who taught no courses and advised no undergraduate or graduate students. Determination of what constitutes a significant committee or governance assignment would be made by the individual, the department chairman, and the dean of the college. (20 committees = 13.33 Adjusted Credit Hours: 1 Committee = 0.67 Adjusted Credit Hour)

Related Professional Activities

The 10 hours per week allocated to related professional activities is not being further quantified at this time. University instructional

faculty members are expected to engage in these activities and the basic assumption is that each instructional faculty member will devote the necessary amount of time to a varying mix of professional activities to ensure continued competence, achievement, and professional recognition. This basic allocation of time to these activities applies regardless of the specific assignment of the individual faculty member in direct teaching, supervision of graduate students, advising undergraduates, and serving on committees. The intent of specifically including the related professional activities is to stress their necessity and significance in the continuing workload of a university instructional faculty member. The basic allocation of 10 hours per week has been included in all the preceding calculations of equivalent workloads expressed in adjusted credit hours.

Now that each direct teaching activity and related teaching activity has been described in terms of adjusted credit hours, comparative staffing unit values can be assigned to each of these activities and to the standard allowance for related professional activities.

Transformation from Adjusted Credit Hours to Comparative Staffing Units

As defined earlier, a full-time instructional position consists of 1,000 comparative staffing units. Initially, 540 CSUs are allocated to direct instructional activities, 260 CSUs to related instructional activities, and 200 CSUs to related professional activities, based on the assumed time distribution from Figure 1. Assignment of CSU values to each of the 14 individual activities identified in the direct teaching category and to each of the 6 activities identified in the graduate program supervision category is made on the basis of the number of activity units equivalent to the 9 adjusted credit hour standard and the 540 CSUs assigned to this area. Thus, each credit hour of undergraduate lecture would be equivalent to 60

(540 ÷ 9) comparative staffing units. Based on the previous assumption that 6 credit hours of graduate courses are equivalent to 9 adjusted credit hours, each credit hour of graduate course is equivalent to 90 (540 ÷ 6) comparative staffing units. Comparative staffing unit values for each of the 14 specific activities in direct teaching are shown in Table 4. Each CSU value is determined by dividing the number of activity units equivalent to 9 adjusted credit hours into the 540 CSUs allocated to the 9 adjusted credit hour teaching load. The CSU value for line 5 is rounded off from 67.5 to 70, for convenience in later computations.

TABLE 4

COMPARATIVE STAFFING UNIT VALUES FOR DIRECT TEACHING ACTIVITIES

	Activity	Activity Units Equal to 9 Adjusted Credit Hours	Transformation to Comparative Staffing Units (CSUs)
1.	Undergraduate Lectures	9 credit hours	1 credit hour = 60 CSUs
2.	Repeat Section, Undergraduate Course	12 credit hours	1 credit hour = 45 CSUs
3.	Graduate Courses	6 credit hours	1 credit hour = 90 CSUs
4.	Honors Section and Colloquia	6 credit hours	1 credit hour = 90 CSUs
5.	Repeat Section, Graduate and Honors Courses	8 credit hours	1 credit hour = 70 CSUs
6.	Recitations	12 credit hours	1 credit hour = 45 CSUs
7.	Seminars	12 credit hours	1 credit hour = 45 CSUs
8.	Activity Classes and Clinics	27 contact hours	1 contact hr. = 20 CSUs
9.	Laboratories	18 contact hours	1 contact hr. = 30 CSUs
10.	Independent Studies, Honors Projects	54 students	1 student = 10 CSUs
11.	Individual Lessons	36 students	1 student = 15 CSUs
12.	Student Teaching	18 students	1 student = 30 CSUs
13.	Internships	18 students	1 student = 30 CSUs
14.	Senior Honors Thesis	18 students	1 student = 30 CSUs

Table 5 presents comparative staffing unit values for graduate program supervision, undergraduate advising, committees, and related professional activities. The CSU values for the graduate program supervision activities are based on 540 CSUs. For undergraduate advising, 600 CSUs are allocated to the 300 advisees because of the assumed 30 hours per week for this purpose. For committees, 800 CSUs are allocated to the 20 committees, assuming 40 hours per week for this activity. The basic allocation of 10 hours per week for related professional activities is equal to 200 CSUs and is allocated on a fixed basis to each instructional faculty position.

TABLE 5

COMPARATIVE STAFFING UNIT VALUES FOR GRADUATE PROGRAM SUPERVISION, UNDERGRADUATE ADVISING, COMMITTEES, AND RELATED PROFESSIONAL ACTIVITIES

	Activity	Activity Units Equal to 9 Adjusted Credit Hours	Transformation to Comparative Staffing Units (CSUs)
1.	Ph.D. Committee Chairman	9 students	1 student = 60 CSUs
2.	Ph.D. Committee Member	45 students	1 student = 12 CSUs
3.	Master's (Thesis) Committee Chairman	18 students	1 student = 30 CSUs
4.	Master's (Thesis) Committee Member	45 students	1 student = 12 CSUs
5.	Master's (Non-Thesis) Committee Chairman	30 students	1 student = 18 CSUs
6.	Master's (Non-Thesis) Committee Member	90 students	1 student = 6 CSUs
		Activity Units Equivalent to a Full-Time Load	
7.	Undergraduate Advising	300 students	1 advisee = 2 CSUs
8.	Committees	20 committees	1 committee = 40 CSUs
		Activity Units for Each Professional Position	
9.	Related Professional Activities	Basic allocation per FTE = 200 CSUs	

Adjustment for Class Size

Optimum class size is based on course levels, methods of instruction, and physical facilities. When the number of students exceeds the optimum number, additional sections should be added or the comparative staffing unit value for the class should be increased. However, it is assumed that graduate and honors classes should not exceed certain maximum numbers or their purpose would be defeated.

No instructional workload is assigned to classes failing to meet minimum class sizes, which, as currently defined by Colorado State University, are:

	Minimum Number of Students		
Course Level	Lectures	Recitations	Laboratories
Undergraduate - Lower Division	15	15	10
Undergraduate - Upper Division	10	10	8
Graduate - I and II	5	5	5

Comparative Staffing Unit Tables

Specific comparative staffing unit values for various teaching activities, by levels of course and class size, are given in Tables 6 and 7. Classes failing to meet the minimum specified size are assigned no value in comparative staffing units. Such sections may be given at the discretion of the department but do not count toward the workload of an individual faculty member or of the department and college. CSU values are not shown for classes exceeding the proposed maximum class size. If such classes are offered, the appropriate CSU value is obtained by extrapolation. Table 6 presents CSU values for activities measured in credit hours and Table 7 presents CSU values for activities measured in contact hours.

TABLE 6

COMPARATIVE STAFFING UNITS PER CREDIT HOUR BY COURSE LEVEL AND CLASS SIZE

Activity and Class Size	Undergraduate Lower Division	Undergraduate Upper Division	Graduate Grad I	Graduate Grad II	Honors Sections Lower Division	Honors Sections Upper Division
Lectures						
Class Size	CSU Value Per Credit Hour					
0- 4	0	0	0	0	0	0
5- 9	0	0	90	90	0	0
10- 14	0	60	90	90	0	0
15- 20	60	60	90	90	90	90
21- 40	60	65	100	100	90	100
41- 75	65	70	--	--	100	110
76-100	70	75	--	--	110	--
101-150	75	80	--	--	--	--
151-200	80	85	--	--	--	--
201+	85	90	--	--	--	--
Repeat Sections						
Class Size	CSU Value Per Credit Hour					
0- 4	0	0	0	0	0	0
5- 9	0	0	70	70	0	0
10- 14	0	45	70	70	0	70
15- 20	45	45	70	70	70	70
21- 40	45	50	80	80	70	80
41- 75	50	55	--	--	80	90
76-100	55	60	--	--	90	--
101-150	60	65	--	--	--	--
151-200	65	70	--	--	--	--
201+	70	75	--	--	--	--
Recitations						
Class Size	CSU Value Per Credit Hour					
0- 4	0	0	0	0	0	0
5- 9	0	0	70	70	0	0
10- 14	0	45	70	70	0	0
15- 20	45	50	80	80	70	70
21- 40	50	55	90	90	75	75
Seminars						
Class Size	CSU Value Per Credit Hour					
0- 4	0	0	0	0	0	0
5- 9	0	0	70	70	0	0
10- 14	0	45	70	70	0	70
15- 20	45	50	80	80	70	70
21- 40	50	55	90	90	75	75

TABLE 7

COMPARATIVE STAFFING UNITS PER CONTACT HOUR BY COURSE LEVEL AND CLASS SIZE

Instructional Activity and Class Size	Undergraduate		Graduate	
	Lower Division	Upper Division	Grad I	Grad II
Activity Classes and Clinics				
Class Size	CSU Value Per Contact Hour			
0- 4	0	0	0	0
5- 9	0	0	30	30
10-14	0	20	30	30
15-20	20	20	35	35
21-40	20	20	40	40
Laboratories				
Class Size	CSU Value Per Contact Hour			
0- 4	0	0	0	0
5- 7	0	0	40	40
8- 9	0	30	40	40
10-15	30	30	40	40
16-20	30	30	40	40
21-25	30	30	45	45
26-30	35	35	45	45
31+	35	35	45	45

Table 8 presents CSU values for those instructional activities measured in numbers of students and for undergraduate advising. Specific CSU values also are given for significant committee assignments. Determination of significance is made by the department chairman and the dean. The basic CSU value of 200 for related professional activities is shown at the bottom of Table 8. It represents the 10 hours per week that each instructional faculty member is expected to devote to these activities.

TABLE 8

COMPARATIVE STAFFING UNITS PER STUDENT,
PER COMMITTEE, AND FOR RELATED PROFESSIONAL ACTIVITIES

Activity	Undergraduate		Graduate	
	Lower Division	Upper Division	Grad I	Grad II
	CSU Values Per Student			
Independent Studies and Honors Projects	10	10	15	15
Individual Lessons	15	15	20	20
Student Teaching	30	30	40	40
Internships	30	30	40	40
Senior Honors Thesis	--	30	--	--
Ph.D. Committee Chairman	--	--	--	60
Ph.D. Committee Member	--	--	--	12
Master's (Thesis) Committee Chrmn.	--	--	30	--
Master's (Thesis) Committee Member	--	--	12	--
Master's (Non-Thesis) Committee Chrmn.	--	--	18	--
Master's (Non-Thesis) Committee Member	--	--	6	--
Undergraduate Advising	2	2	--	--
	CSU Values Per Committee			
Committees	40 CSUs per significant committee (determined by department chairman and dean of college), all levels.			
	CSU Values for Related Professional Activities			
Related Professional Activities	200 CSUs per individual faculty member (FTE) as standard allowance, all levels			

MEASURING FACULTY WORKLOAD IN COMPARATIVE STAFFING UNITS

Example of a Full-Time Instructional Workload

Using the comparative staffing unit values developed earlier, one possible example of a full-time workload for a university instructional faculty member is given in Table 9.

TABLE 9

EXAMPLE OF FULL-TIME INSTRUCTIONAL WORKLOAD

Activity	Units	CSUs/Unit	Total CSUs	Estimated Hours per Week
Lectures	9 adjusted credit hours	60	540	27
Undergraduate Advisees	30 students	2	60	3
Chairman of Graduate Committee - Ph.D.	2 students	60	120	6
Committees	2 committees	40	80	4
Related Professional Activities	Basic Allowance	200	200	10
TOTAL			1,000	50

This hypothetical faculty member would spend approximately 27 hours per week on the 9 adjusted credit hours of lectures, 3 hours per week with the 30 advisees, 6 hours per week with the Ph.D. students, 4 hours per week in committee meetings, and 10 hours per week in related professional activities. The totals of 50 hours per week and 1,000 CSUs represent a full workload for an individual on a 100 percent teaching appointment at a comprehensive university.

Full flexibility exists for reallocation of time to various activities, as long as the maximum of 50 hours per week or 1,000 CSUs is

recognized. Variations in distribution within the expected workload allow recognition of individual faculty differences as well as department, college, and university policies.

A Detailed Example

To further demonstrate the use of the comparative staffing unit method, a detailed example of a hypothetical instructional workload for a full-time faculty member for one semester is described and analyzed using two traditional measures plus the comparative staffing unit method. This example is for an individual on a 100 percent teaching appointment. The workload for this example is described in Table 10.

TABLE 10

DETAILED EXAMPLE OF INSTRUCTIONAL WORKLOAD

Activity	Units	Students
Lecture, Upper Division Course	4 credit hrs. (incl. lab.)	75
Repeat Section, Same Course	4 credit hrs. (incl. lab.)	75
Laboratories		
(3 sections per course per wk.)		
Lab 1	2 contact hours	25
Lab 2	2 contact hours	25
Lab 3	2 contact hours	25
Lab 4	2 contact hours	25
Lab 5	2 contact hours	25
Lab 6	2 contact hours	25
Ph.D. Committee Chairman	1 student, 1 credit hour	1
Advisees	Undergraduates	15
Committees	3 significant committees	--

Analysis by Credit Hour Method

The traditional instructional analysis utilizing credit hours as the basis for measurement would recognize the two 4 credit hour courses plus the 1 credit hour of graduate thesis. This teaching load of 9 credit hours would be recognized as a full-time load, using the previously stated 9 credit hour = 1 FTE definition. This credit hour measure does not recognize explicitly the number of students, the laboratories, the advisees, the committees, the actual workload of the Ph.D. student, or the related professional activities. These workload units may be recognized implicitly by defining 9 rather than 12 credit hours as a full-time instructional load. However, explicit recognition of the actual workload imposed by these activities would be highly desirable.

Analysis by SCH/FTE Method

The student credit hours produced per full-time equivalent faculty (SCH/FTE) method would recognize both the number of credit hours and the number of students in each class. Each lecture in this example would generate 300 student credit hours (75 X 4) and the Ph.D. student would generate 1 student credit hour, thus a total of 601 (300 + 300 + 1) student credit hours would be generated by this faculty member. If 600 SCH/FTE were defined as a full-time load, this individual would be recognized as carrying a full instructional workload. This method does not recognize the laboratories, the advising load, the committee assignments, or the related professional activities and has, therefore, the same limitations as the credit hour measure.

Analysis by CSU Method

Utilization of the comparative staffing unit method allows specific recognition of every instructional and instructional-related activity given in Table 10. In addition, it recognizes the size, level, and nature

of the lectures and laboratories, the workload imposed by the advisees and the committees, and the necessity of the related professional activities. The details of the comparative staffing unit analysis are shown in Table 11. The specific CSU factors shown in Table 11 are taken from Tables 6, 7, and 8 and reflect the level and size of the lectures and laboratories, plus the fact that the second lecture is a repeat section of the first. Undergraduate advisees, graduate student supervision, committee assignments, and the related professional activities are also specifically recognized and quantified as part of the instructional workload.

TABLE 11

ANALYSIS OF WORKLOAD BY COMPARATIVE STAFFING UNIT METHOD

Activity	Unit of Measurement	CSU Value Per Unit	Estimated Individual Workload in CSUs	
Direct Teaching				
Lecture 1	3 cr. hrs.	70	210	
Lecture 2 (Repeat Section)	3 cr. hrs.	55	165	
Lab 1	2 co. hrs.	30	60	
Lab 2	2 co. hrs.	30	60	
Lab 3	2 co. hrs.	30	60	
Lab 4	2 co. hrs.	30	60	
Lab 5	2 co. hrs.	30	60	
Lab 6	2 co. hrs.	30	60	
				735
Graduate Student Supervision				
Ph.D., Chairman of Graduate Committee	1 Student	60		60
Undergraduate Advising	15 Students	2		30
Committees	3 Committees	40		120
Related Professional Activities		200		200
TOTAL CSUs				1,145

While the credit hour method and the SCH/FTE method measured this workload as being equivalent to a full-time position, the comparative staffing unit method recognizes a 14.5 percent overload imposed by these specific activities. Recognition and quantification of the actual faculty input needed to carry out each of these responsibilities identifies the overload imposed. While such overloads frequently occur on a single semester basis due to departmental policy or unexpected student demands, continued overloads placed on the instructional faculty can lead to insufficient time devoted to the necessary related professional activities, inadequate service given to advisees and the university, and/or deterioration of the quality of the instructional programs.

Analysis of Overload

In order to understand more clearly how the comparative staffing unit method measures workload and identifies possible overloads, the activities described in the previous example are expressed in expected working hours per week. This process will point out areas where the hypothetical faculty member spent more or less time than expected on individual activities and will identify the sources of the 14.5 percent overload. Recall that the expected time distribution of an average full-time university instructional faculty member was:

Activity	Hours per Week	CSU Value
Direct Instructional Activities	27	540
Related Instructional Activities	13	260
Related Professional Activities	10	200
TOTAL	50	1,000

Additionally, the basic assumption of 3 working hours per week for each *adjusted* credit hour is used. The adjustment for the large class sizes in this example increases the adjusted credit hour value for each of the lectures. For the first lecture, the CSU value assigned is 70 rather than the basic value of 60. This CSU value is 17 percent higher than the basic value for an undergraduate lecture, thus, the adjustment factor of 1.17 is used in Table 12 to determine time utilization. For the repeat lecture, the CSU value is 55, rather than the basic 45, again due to the large size of the class. The adjustment factor for this lecture is 22 percent greater than 0.75, or 0.92. The laboratories are within the normal size range and thus the adjustment factors remain at 0.50 (1 contact hour of laboratory = 0.50 adjusted credit hour). These adjustment factors are multiplied by the actual units to obtain adjusted credit hours. Multiplying adjusted credit hours by 3 gives the estimated working hours per week. The detailed analysis shown in Table 12 summarizes the estimated working hours needed per week to carry out the responsibilities described in Table 10 and analyzed by the comparative staffing unit method in Table 11.

The estimated working hours per week for the first lecture are 10.53 rather than the standard 9.00 (for a 3 credit course) due to the large class size. The repeat lecture utilizes fewer hours per week than the initial lecture but the extra work caused by the large class is recognized. It can be seen that the direct instructional working hours of 36.81 plus 3.00 hours for supervising the Ph.D. student, a total of 39.81 hours, are more than the 27 hours expected per week in direct instructional activities. This overload in direct instructional activities is partially compensated for by utilizing only 7.50 hours rather than 13.00 hours in related instructional activities. The standard allowance for related professional activities is assumed to be fully utilized.

TABLE 12

ANALYSIS OF WORKLOAD IN WORKING HOURS PER WEEK

Activity	Units	Adjustment Factor	Adjusted Credit Hours	Work Hours Per Credit Hour	Estimated Work Hours Per Week
Direct Teaching					
Lecture 1	3 cr. hrs.	1.17	3.51	3	10.53
Lecture 2	3 cr. hrs.	0.92	2.76	3	8.28
Laboratories	12 co. hrs.	0.50	6.00	3	18.00
Direct Teaching Hours/Week					36.81
Supervision of Graduate Students					
Ph.D. Student, Committee Chairman	1 student	1.00	1.00	3	3.00
Undergraduate Advising					
15 Advisees	15 students	(15/30 x 3.00 hrs/wk)			1.50
Committees	3 committees	(3/5 x 10.0 hrs/wk)			6.00
Related Professional Activities		Standard Allowance			10.00
TOTAL ESTIMATED WORKING HOURS PER WEEK					57.31

The total workload expressed in working hours per week is summarized below:

Activity	Hours Expected (from Figure 1)	Estimated Hours Needed (from Table 12)
Direct Instructional Activities	27	39.81
Related Instructional Activities	13	7.50
Related Professional Activities	10	10.00
Total Per Week	50	57.31

This computation estimates that this individual would need to work 7.31 hours per week beyond the expected maximum of 50 hours in order to accomplish the assigned activities. The estimated extra working hours of 7.31 hours per week represent a 14.6 percent overload on a 50-hour working week. The CSU value computed previously was 1,145, representing a 14.5 percent overload. Except for rounding within the calculations, these figures express the same excessive demands on the time of the individual hypothetical faculty member used in the example.

It is apparent that the CSU method estimates with comparative accuracy the actual input of faculty time needed to carry out a specific instructional workload. While implicit adjustments may be made in assigned instructional duties for the workload imposed by related activities when using the credit hour or SCH/FTE methods, the comparative staffing unit method measures each of these workload components in an explicit and comparative manner. By so doing, it more accurately measures the input necessary to complete all the expected activities.

IMPLEMENTATION AND DATA SOURCES

Implementation Procedures

In order to implement the comparative staffing unit system for analyzing instructional faculty workloads, the following steps need to be taken:

1. Each existing course must be classified into one of the fourteen teaching categories identified in Table 4. A comparative staffing unit value can then be assigned.

2. New courses should be assigned to a category and given the appropriate CSU value as part of the course approval process. Suggested CSU values should be included in the initial proposal for course approval.

3. A course master file will contain the basic CSU value for each course, in addition to the normal information relative to the course. The assigned CSU value will then be adjusted as needed during a specific semester for actual class size and whether individual sections are original with the instructor or are repeat sections.

4. A computer analysis is made each semester to compare the actual workload of each faculty member, as computed by the comparative staffing unit method, with the budgeted distribution of the faculty member's time. Actual and budgeted workloads can then be computed on a department, college, and university level.

Workloads thus identified can be used as a basis for assuring optimum utilization of existing resources and for justifying requests for additional personnel, if significant and continuing overloads are identified.

Data Sources

The following data need to be assembled for each faculty member for each semester:

1. Activities measured in credit hours

   Course number
   Number of students in course
   Original or repeat section
   Number of credit hours

2. Activities measured in contact hours

   Course number
   Number of students in course
   Number of contact hours

3. Activities measured in student numbers

   Number of students supervised in independent studies, honors projects, individual lessons, student teaching, internships, and senior honors thesis.
   Number of graduate students, by level, served as chairman or member of graduate committee
   Number of undergraduate advisees

4. Other activities

   Number of significant committees
   Related professional activities - basic allowance

Data relative to activities measured in credit hours and contact hours can be obtained from semester course summaries and the course master file. Numbers of students involved in independent studies, honors projects, individual lessons, student teaching, internships, and seniors honors thesis can be obtained from semester course summaries, if accurate and inclusive, or from individual faculty members or departments. Committee assignments of graduate students should be obtainable from records in the Graduate School Office. It is suggested that supervision of graduate students not

be recognized as part of the faculty member's workload until significant amounts of faculty input are actually required. A reasonable time for recognizing this element of the workload is when the student's graduate committee is formally appointed.

The number of undergraduate advisees can be obtained either from the individual advisor, the department office, or the office of academic advising. Those committees that are to be recognized as being significant must be determined by the individual faculty member and the department chairman or college dean.

The basic allocation of 10 hours per week, or 200 CSUs, for related professional activities needs to be verified or adjusted for each individual faculty member. If an individual spends a larger amount of time in this area than provided by the basic allocation, this should be recognized and corresponding reductions should be considered in other areas. If less than the expected involvement is determined to exist, the allocation should be reduced.

The data needs and sources for comparative staffing unit analysis are summarized in Figure 2 and a worksheet for estimating CSUs for an individual faculty member is provided in Figure 3. Basic CSU values for each activity are listed on the worksheet. If specific class sizes or course levels warrant the use of higher CSU values, the appropriate values from Tables 6, 7, and 8 should be substituted for those shown on the worksheet. The total CSU value determined for an individual faculty member each semester quantifies the estimated faculty input necessary to carry out the assigned workload. An individual on a 100 percent teaching assignment would normally carry a workload of approximately 1,000 comparative staffing units each semester.

FIGURE 2: DATA NEEDS AND SOURCES FOR COMPARATIVE STAFFING METHOD UNIT

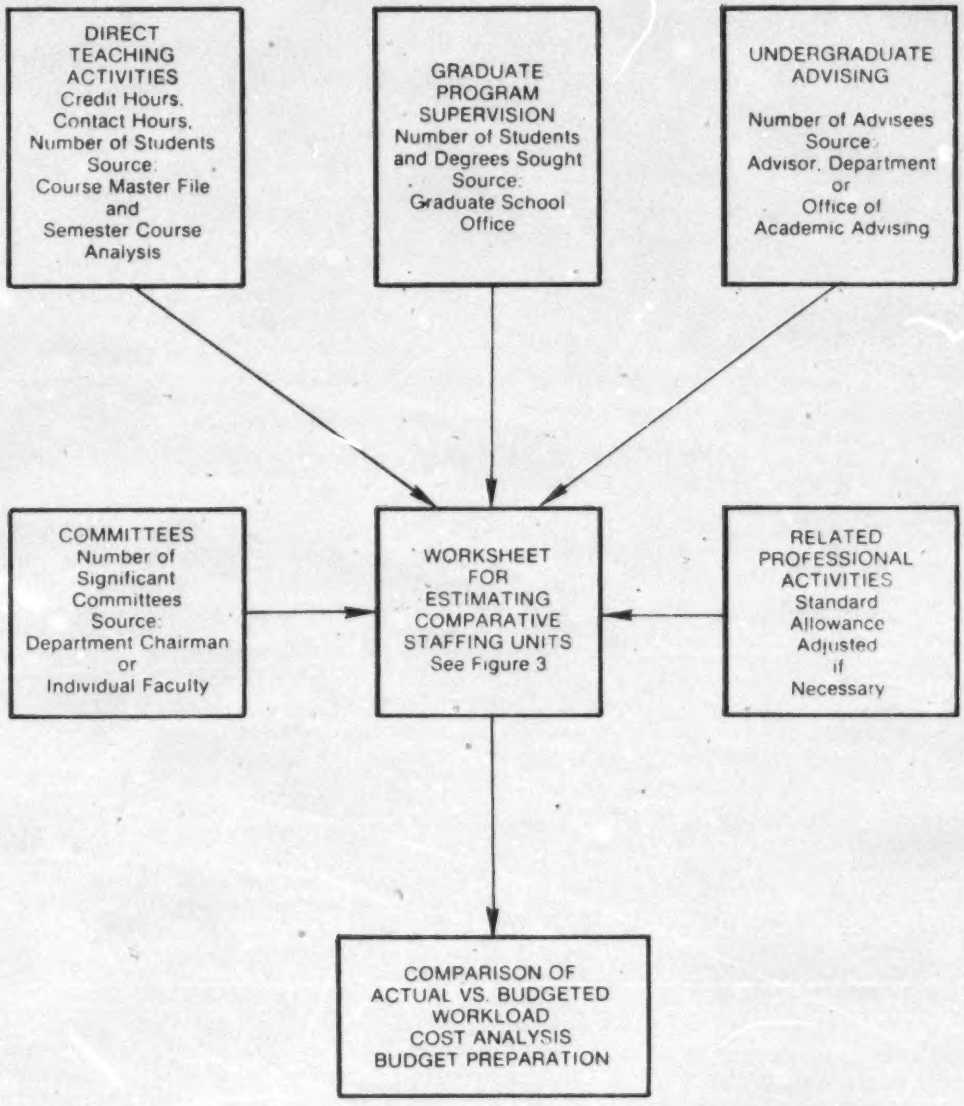


FIGURE 3: WORKSHEET FOR ESTIMATING COMPARATIVE STAFFING UNITS (CSUs)

Name_____ Department_____

Assignment ___% Instruction ___% Research ___% Extension ___% Admin. ___% Other

Activity	Activity Units, Current Semester	Basic CSU Value per Activity Unit	Total CSUs
		Per Credit Hour	
1. Undergraduate Lecture	_____ credit hours	60	_____
2. Repeat Section, Undergraduate Course	_____ credit hours	45	_____
3. Graduate Courses	_____ credit hours	90	_____
4. Honors Sections and Colloquia	_____ credit hours	90	_____
5. Repeat Section, Graduate or Honors Course	_____ credit hours	70	_____
6. Recitations	_____ credit hours	45	_____
7. Seminars	_____ credit hours	45	_____
		Per Contact Hour	
8. Activity Classes and Clinics	_____ contact hours	20	_____
9. Laboratories	_____ contact hours	30	_____
		Per Student	
10. Independent Studies, Honors Projects	_____ students	10	_____
11. Individual Lessons	_____ students	15	_____
12. Student Teaching	_____ students	30	_____
13. Internships	_____ students	30	_____
14. Senior Honors Thesis	_____ students	30	_____
15. Graduate Students:			
a. Ph.D. Committee Chairman	_____ students	60	_____
b. Ph.D. Committee Member	_____ students	12	_____
c. Master's (Thesis) Chairman	_____ students	30	_____
d. Master's (Thesis) Committee	_____ students	12	_____
e. Master's (Non-Thesis) Chairman	_____ students	18	_____
f. Master's (Non-Thesis) Committee	_____ students	6	_____
16. Undergraduate Advising	_____ students	2	_____
		Per Committee	
17. Committees	_____ committees	40	_____
		Per Individual	
18. Related Professional Activities		200	_____

FULL-TIME UNIVERSITY INSTRUCTIONAL FACULTY MEMBER = 1,000 CSUs TOTAL [ ]

SUMMARY

Comparative staffing units quantify the direct instructional, related instructional, and related professional activities of university instructional faculty members. This method measures estimated faculty input, rather than output, and offers a number of advantages over the more traditional workload measures of credit hours, student credit hours per full-time equivalent, and student/faculty ratios. Specific comparative staffing unit (CSU) values are assigned to each of the general activity areas and to each individual professional activity in which the faculty member engages. Adjustments in CSU values recognize types of course, level of course, number of students per course, and whether courses are initial or repeat sections. Activities are measured on the basis of credit hours, contact hours, or number of students, as appropriate. Undergraduate advisees, committee assignments, and related professional activities also are specifically recognized and quantified as necessary and significant portions of the instructional workload.

A typical university instructional faculty member is assumed to work approximately 50 hours per week and a full-time instructional faculty position is defined as being equal to 1,000 comparative staffing units. The typical university instructional faculty member is described as carrying a 9 adjusted credit hour teaching load that utilizes approximately 27 working hours per week, advising undergraduates and participating in department, college, and university committees and governance groups for approximately 13 hours per week, and being engaged on a continuing basis in the related professional activities of university service and professional development for approximately 10 hours per week. Summation of CSU values for each professional activity provides a measure of the total workload

carried by an individual faculty member.

Great flexibility exists within the system to allow for the necessarily subjective recognition and utilization of individual faculty member's abilities, interests, and personalities. Adjustments are easily made to recognize individual differences while maintaining comparative equivalency of faculty workloads. In addition, activities such as undergraduate advising and committee work are recognized explicitly by this system. Such recognition can potentially lead to improvement in the quality of the advising function and to increased willingness to accept significant committee responsibilities. Recognition of and adjustment for these important activities can be made within the normal working week, rather than in addition to the working week, by utilizing the comparative staffing unit method.

The comparative staffing unit method of analyzing faculty workload enables identification and quantification of significant activities in which university instructional faculty members are involved. By so doing, more equitable workload assignments can be made, optimum use of existing resources can be facilitated, the need for additional instructional positions can be identified with clearer justification, and a more accurate picture of what university faculty members actually do will emerge. Use of the comparative staffing unit method for estimating instructional faculty workloads can help ensure a quality educational experience for students and a reasonable workload for faculty. It provides a management tool to assist both internal and external decision makers in operating today's university in a manner acceptable to and understandable by its sponsors, its faculty, its students, and the general public.

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